(19) World Intellectual Property Organization International Bureau

Organization emational Bureau OMP





(43) International Publication Date 6 January 2005 (06.01.2005)

PCT

 $\begin{array}{c} \hbox{\scriptsize (10) International Publication Number}\\ \hbox{\scriptsize WO 2005/000107} \ \ A2 \end{array}$

(51) International Patent Classification7:

A61B

(21) International Application Number:

PCT/US2004/020441

(22) International Filing Date:

25 June 2004 (25.06.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/482,829

25 June 2003 (25.06.2003) US

(71) Applicants (for all designated States except US): THE CHILDREN'S HOSPITAL OF PHILADELPHIA [US/US]; 34th Street and Civic Center Boulevard, Philadelphia, PA 19104 (US). THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA [US/US]; 3160 Chestnut Street, Suite 200, Philadelphia, PA 19104 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SHASTRI, Venkatram, P. [IN/US]; 1134 N. Bethlehem Pike, Lower Gwynedd, PA 19002 (US). GOOCH, Keith, J. [US/US]; 43 Letitia, Media, PA 19063 (US). NICHOL, Jason, W. [US/US]; 56 S. Canal Street, Yardley, PA 19067 (US).

(74) Agent: VOLIN, Marina, E.; Caesar, Rivise, Bernstein, Cohen & Pokotilow, LTD., Seven Penn Center, 1635 Market Street, 11th Floor, Philadelphia, PA 19103 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

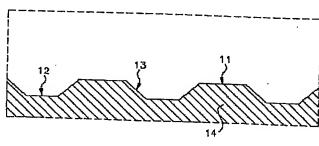
— of inventorship (Rule 4.17(iv)) for US only

Published:

 without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: RETENTION OF ENDOTHELIAL CELLS ON VASCULAR GRAFTS



(57) Abstract: An implantable device including a surface containing a plurality of first zones and a plurality of second zones depressed relative to the first zones so as to provide valleys below a plane defined by the first zones, wherein a first zone to second zone width ratio is non-random throughout the device; and a biologically active agent in the valley, wherein the device is adapted to be implanted within an organism such that when said surface is subjected to a flow causing a fluid-induced shear stress, the second zone has a reduced level of the fluid-induced shear stress relative to the first zone in an amount adequate to selectively retain the biologically active agent within the valley.

WO 2005/000107 A2

T TERME BENEFIEL IN ENEMIE WENT ERRIN ERRIN ERRIN FRAN ER HET BENEFIELEN ER HET LEGE BENEFIEL FREI FREI FREI F

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.